REPUBLIKA SLOVENIJA
MINISTRSTVO ZA IZOBRAŽEVANJE, ZNANOST IN MLADINO

Uvodni nagovor in nacionalne usmeritve na področju kvantnega računalništva

Andrej Vastl
vršilec dolžnosti generalnega direktorja
Direktorat za znanost, MIZM

Rudolfovo – Znanstveno in tehnološko središče Novo mesto
05.11.2026

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Evropska kvantna strategija, EuroHPC JU in Evropski kvantni akt

Anamarija Meglič
Sektor za znanost, MIZM

Rudolfovo – Znanstveno in tehnološko središče Novo mesto
05.11.2026

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Quantum Europe Strategy

R&I

Skills

QUANTUM EUROPE

Quantum Infrastructure

Dual-use

Quantum Ecosystem

FROM LAB TO MARKET

DISCOVER

BUILD

USE

QUANTUM EUROPE R&I

SCALING QUANTUM CAPABILITIES



Quantum computers in 10+ EU countries

EPC EuroHPC

EuroQCI secure quantum communication

Quantum sensors gravimeters, MRI inertial navigation

Pilot lines for production and testing

Interoperability & hybrid systems

GROWING EUROPE'S QUANTUM ECONOMY

6 industrial pilot lines

EU Design Facilitiy + cloud-based tools

Public procurement to stimulate demand

QU-TEST: EU-wide certification + benchmarking

IP strategy + resilience for EU supply chain

STRATEGIC AUTONOMY IN SPACE, SECURITY & DEFENCE

Quantum sensors for GNSS-free navigation

Quantum communication in IRIS² satellites

Roadmaps: PQC, dual-use applications, ESA cooperation

CIVIL

DEFENCE

Quantum in EU defence and NATO strategy

Quantum in EU defence and NATO strategy

A QUANTUM WORKFORCE FOR THE FUTURE

110,000+ graduates/year in related fields

European Quantum Skills Academy (2026)

Training, scholarships, internships, mobility schemes

Qutreach to schools and Widening Countries

Talent portal + 'Teach the Teacher" modules

Robust IP strategy

Area 2: Quantum Europe Infrastructures > Quantum Computing & Simulation

The goal is to position Europe to **acquire next-generation** quantum computers **primarily from EU providers**, while progressively scaling these platforms to reach approximately **100** error-corrected qubits per system by **2030**.

By **2035**, Europe aims to become the **first continent** to reach a scale of **1000** of error-corrected qubits **per platform**, a threshold considered necessary to solve real-world problems.

Europe will continue investing in **quantum simulators.**

Technology platform	Superconducting	Ion traps	Cold atoms	Photonics	Spin qubits
EU machines	17	6	8	5	3
UK machines	4	**6**	0	**5**	2
USA machines	26	7	4	2	0
Canada machines	13	0	0	1	0
China machines	2	0	0	0	0
ROW[29] machines	1	0	0	1	**3**

***Table 1:** Quantum Computing and Simulation Suppliers Landscape*

Quantum Europe Strategy

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EuroHPC Joint Undertaking

EuroHPC QCS Quantum Infrastructures

Quantum Simulators & Hosting Entities Overview
2 Quantum Simulators (100+ Qubits)
- **Jülich: JUWELS – PASQAL QS** *(Germany)*
- **GENCI: Joliot-Curie – PASQAL QS** *(France)*

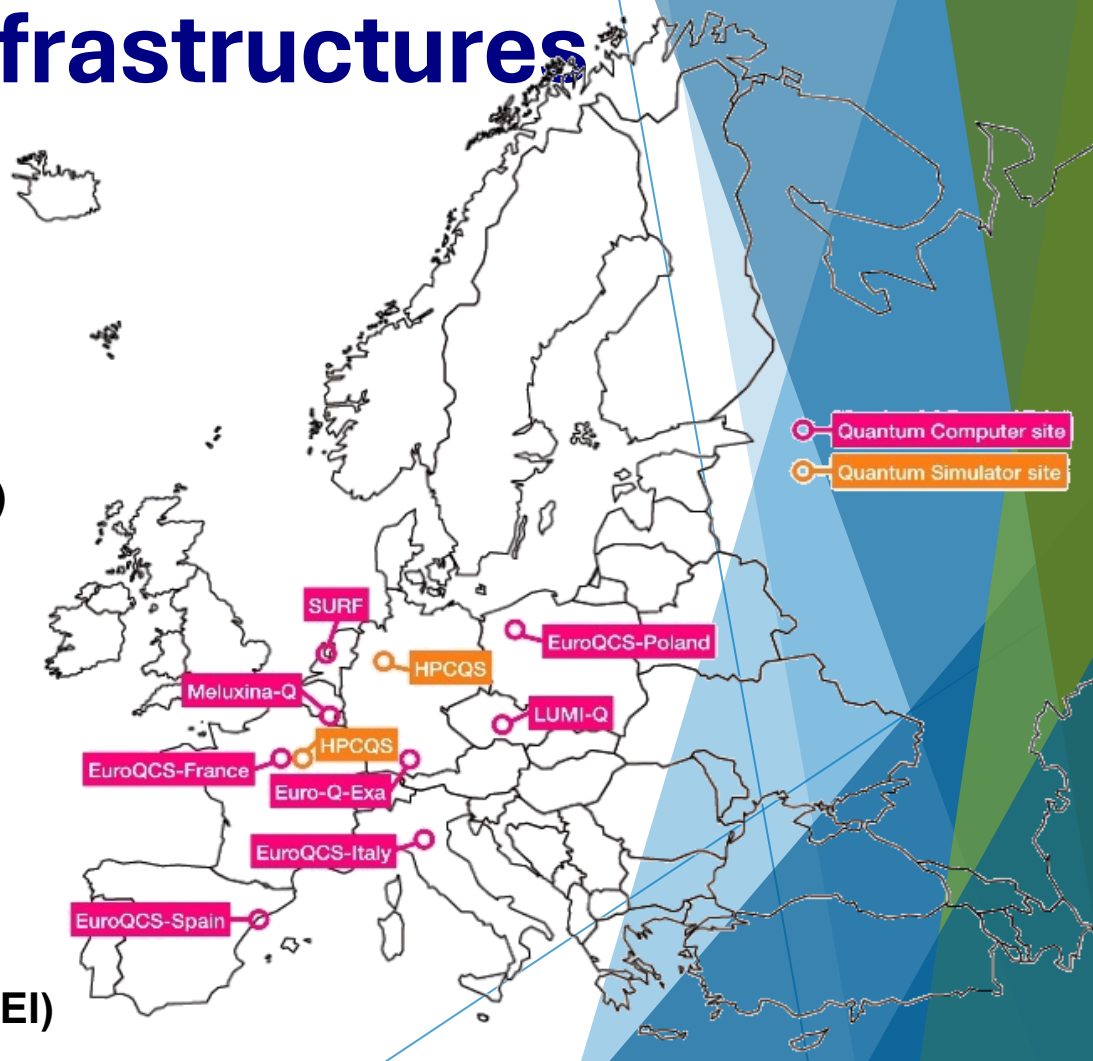
➤ Both fully operational in **2026**

6 Selected Quantum computing Hosting "Entities" (1st CFEI)
Consortia of 30 participating countries
- **Euro-Q-Exa** – *Superconducting Qubits (DE)*
- **LUMI-Q** – *Superconducting Qubits (CZ)*
- **EuroQCS-Spain** – *Superconducting Qubits (ES)*
- **EuroQCS-Italy** – *Neutral Atom Qubits (IT)*
- **EuroQCS-Poland** – *Trapped Ion Qubits (PL)*
- **EuroQCS-France** – *Photonic Qubits (FR)*

➤ All systems expected to be operational in **Q3/Q4 2026**

2 Additional Quantum computing Hosting "Entities" (2nd CFEI)
- **EuroSSQ-HPC** – *Semiconductor Spin-Qubits (NL)*
- **MeluXina-Q** – *Semiconductor Spin-Qubits (LU)*

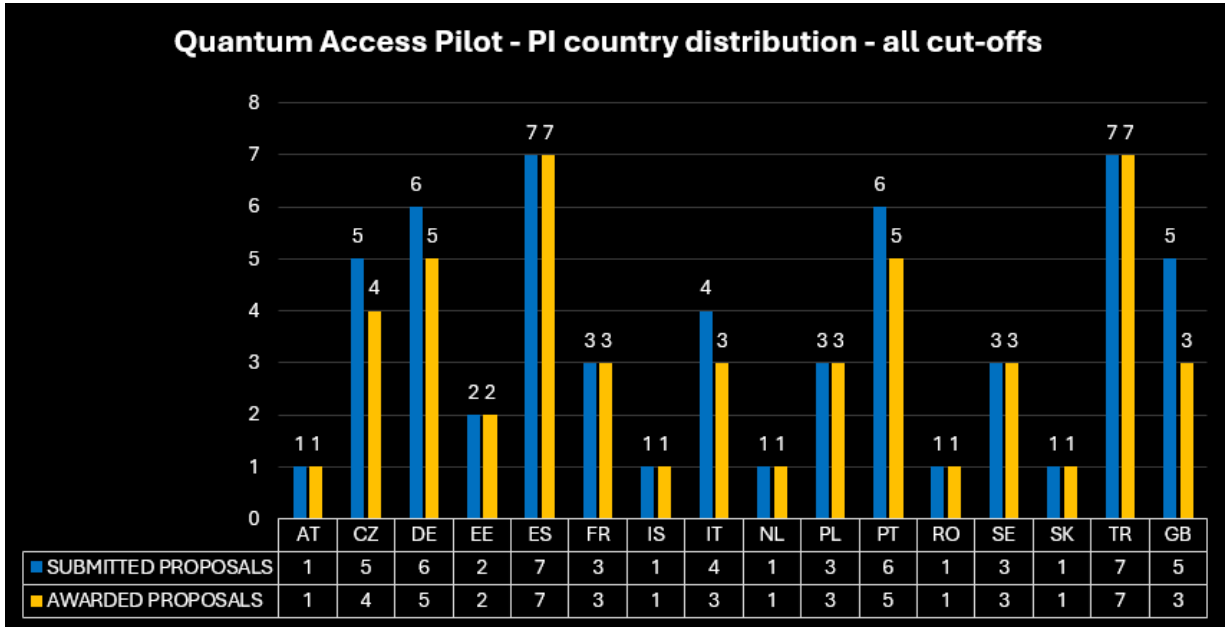
➤ First system expected to be operational in **Q3 2027**



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EuroHPC JU Call for proposals for Quantum Access Pilot Mode

Deadline dates
1 Aug 2026, 10:00 / 1 Sep 2026, 10:00 / 1 Oct 2026, 10:00 / 1 Nov 2026, 10:00 / 1 Dec 2026, 10:00 / 31 Dec 2033, 10:00 (CET)



	AT	CZ	DE	EE	ES	FR	IS	IT	NL	PL	PT	RO	SE	SK	TR	GB
SUBMITTED PROPOSALS	1	5	6	2	7	3	1	4	1	3	6	1	3	1	7	5
AWARDED PROPOSALS	1	4	5	2	7	3	1	3	1	3	5	1	3	1	7	3

SYSTEM*	SITE (COUNTRY)	TECHNOLOGY	MODALITY	TOPOLOGY	MAX. (MIN.) REQUEST**
EuroQCS Spain	BSC (ES)	Analogue (annealer)	Superconducting	N/A	25 (Min 10)
Ruby	GENCI/CEA (FR)	Analogue simulator	Neutral atoms	2D Array	25 (Min 10)
EURO-Q-EXA	LRZ (DE)	Digital	Superconducting	Crystal	10 (Min. 1)
Lucy	GENCI/CEA (FR)	Digital	Photonic	All-to-all connectivity	25 (Min. 10)
PIAST-Q	PCSS (PL)	Digital	Trapped-ions	All-to-all connectivity	25 (Min. 10)
VLQ	IT4 INNOVATIONS (CZ)	Digital	Superconducting	Star with central resonator	10 (Min. 1)

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Preneseni razpisi iz Grozda 4 programa Obzorje Evropa:

Quantum Experimental Pilot Lines for Quantum Technologies HORIZON-JU-EUROHPC-2026-QEXP-14
Consortia for the 1st SGA: **Qu-Pilot,** EU Contribution: 100 %, budget: 15 mio EUR, 1 RIA project will be selected.

Quantum Testing Infrastructure for Quantum Technologies HORIZON-JU-EUROHPC-2026-QTI-13,
Consortium for the 1st SGA: **QU-TEST,** EU Contribution: 100 %, budget: 20 mio EUR, 1 RIA project will be selected.

Next-Generation QKD Systems HORIZON-JU-EUROHPC-2026-NQKD-12, deadline: 17. November at 17.00 CET
Consortium for the 1st SGA: **QSNP,** EU Contribution: 100 %, budget: 24 mio EUR, 1 RIA project will be selected.

Neutral-Atom Platform Technologies HORIZON-JU-EUROHPC-2026-NAPT-11, deadline: 17. November at 17.00 CET
Consortium for the 1st SGA: **PASQuanS2,** EU Contribution:: 100 %, budget: 20 mio EUR, 1 RIA project will be selected.

Superconducting Platform Technologies HORIZON-JU-EUROHPC-2026-SPT-10, deadline: 17. November at 17.00 CET
Consortium for the 1st SGA: **OpenSuperQPlus,** EU Contribution: 100 %, budget: 20 mio EUR, 1 RIA project will be selected.

Trapped-Ion Platform Technologies HORIZON-JU-EUROHPC-2026-TIPT-09, deadline: 17. November at 17.00 CET
Consortium for the 1st SGA: **Millenion,** EU Contribution: 100 %, budget: 20 mio EUR, 1 RIA project will be selected.

DEADLINE FOR ALL 6 CALLS: 17. November at 17.00 CET

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Quantum Machine Learning: HORIZON-JU-EUROHPC-2026-QML-07

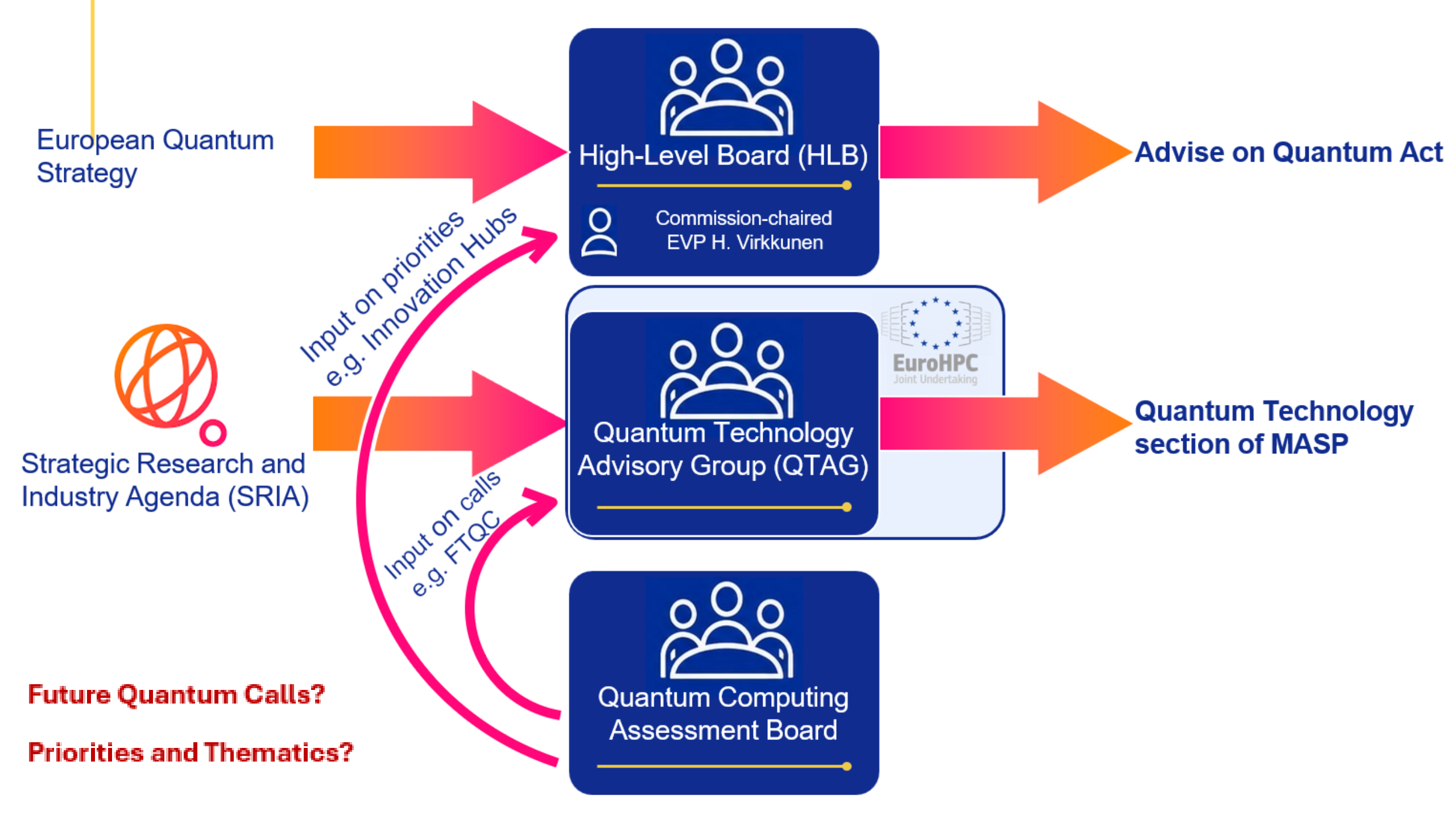
Previdena oddaja predlogov: 28. januar 2027, 17:00 CET
Predviden izbor projektov: do 2 RIA projekta za 4 leta, pričetek cca. Q3/Q4 2027
Prispevek EU (50 %): 2-3 mio EUR

Pomembne informacije za potencialne slovenske prijavitelje!
Navodila za slovenske prijavitelje za pridobitev nacionalnega sofinanciranja projekta izbranega na javnem razpisu „Evropskega skupnega podjetja EuroHPC JU“

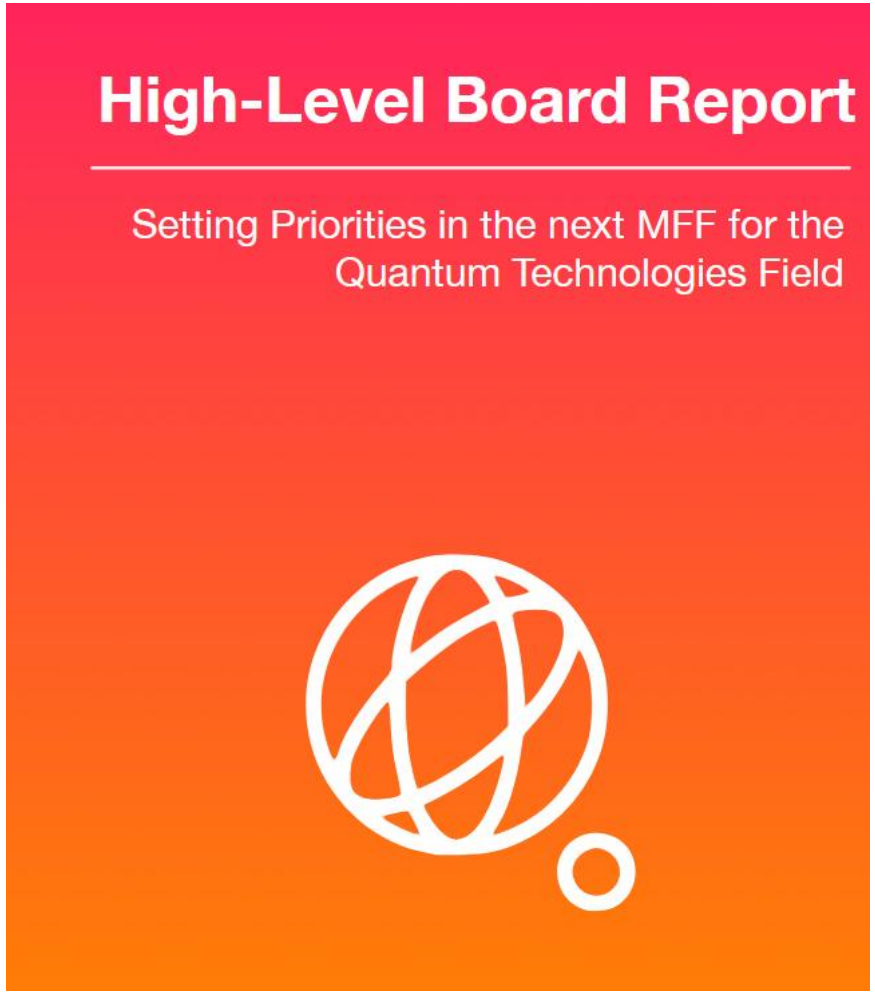
*Zainteresirani slovenski prijavitelj, ki želi pridobiti nacionalno sofinanciranje, skladno z Navodili svojo **najavo interesa za prijavo** na JR EuroHPC posreduje nacionalnemu sofinancerju. Najava interesa mora vključevati **vsebinsko, časovno, kadrovsko in finančno ovrednoten predlog**,* ki se pripravi na Obrazcu za predstavitev predloga.

*Na podlagi pozitivne odločitve presoje predložene najave interesa bo nacionalni financer slovenskemu prijavitelju izdal pismo podpore oz. t.i. **Letter of Support**, ki slovenskemu prijavitelju zagotavlja finančna sredstva za 50 % sofinanciranje prijavljenega projekta v primeru odobritve s strani EuroHPC.*

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European Quantum Strategy
High-Level Board (HLB)
Commission-chaired
EVP H. Virkkunen
Advise on Quantum Act
Input on priorities
e.g. Innovation Hubs
Strategic Research and Industry Agenda (SRIA)
Quantum Technology Advisory Group (QTAG)
EuroHPC
Joint Undertaking
Quantum Technology section of MASP
Input on calls
e.g. FTQC
Quantum Computing Assessment Board
Future Quantum Calls?
Priorities and Thematics?

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Predlog kvantnega akta

Pillar 1:
Quantum Europe R&D

Pillar 2:
Quantum Made in Europe

Pillar 2:
Safe and Secure Quantum Europe

EU COMM College adoption planned on November 18
Public presentation at EQTC 2026

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Global Aspects

- Bilateral Cooperation
- EU strict closed international policy within quantum domain
- Horizon Europe
  - Associated Countries
  - **Canada** joins EuroHPC JU
  - **South Korea** joined QuantERA

QUANTERA



